

Morning Talks - Zabbix

Open Source Monitoring

Lukáš Malý, DiS

IT konzultant bezpečnost a monitoring

email: maly@datasys.cz

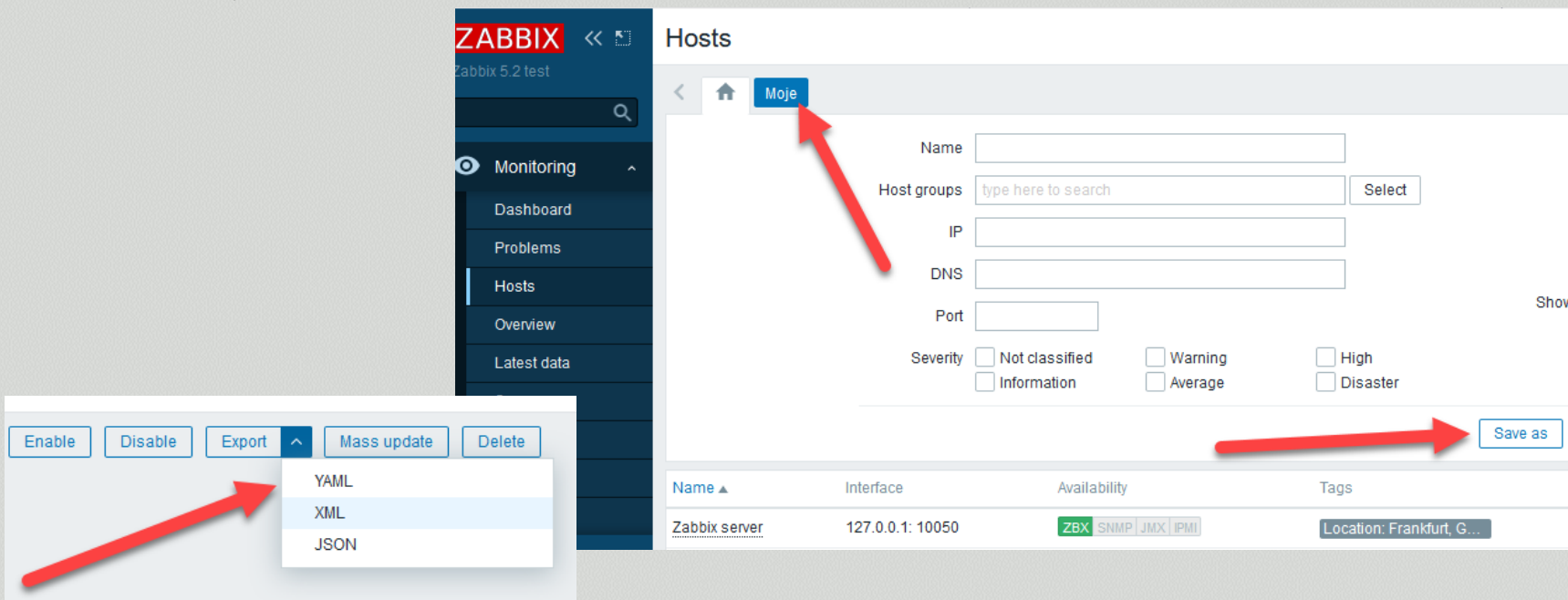
- Novinky v Zabbix 5.0 LTS
- Co přináší Zabbix agent 2 - druhá generace v GO
- Automatizace monitoringu pomocí Low Level Discovery (LLD)
- Šifrování komunikace mezi všemi komponentami Zabbixu
- Zabbix API jako možnost integrace s jinými systémy (Ansible, Terraform)
- Vizualizace - vizualizace architektury a real-time status
- JConsole - inteligentní Java monitoring pomocí JMX
- Orchestrator - VMWare monitoring
- Web tester - 24x7 testování uživatelských scénářů HTTP agent
- Vzdálený monitoring pomocí Zabbix proxy

- **Zabbix je firemní monitorovací software**
 - Opravdu volný, bez omezení
 - Opravdu “enterprise”
 - Rozšiřitelný až
 - 100.000 monitorovaných zařízení
 - 1.000.000 monitorovaných veličin
 - Tisíce kontrol za sekundu
 - Distribuovaný monitoring
 - Popora mnoha platforem



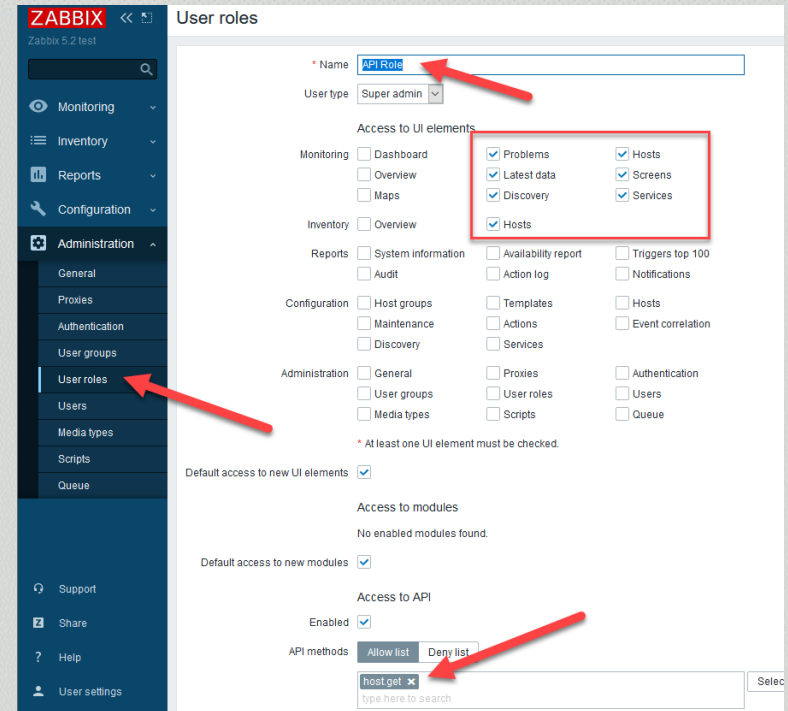
- **Idea: potřeba lepšího monitorovacího nástroje**
 - Kdy?
 - Zabbix 3.0 Leden 2016
 - Zabbix 3.2 Září 2016
 - Zabbix 3.4 Srpen 2017
 - Zabbix 4.0 Říjen 2018
 - Zabbix 4.2 Duben 2019
 - Zabbix 4.4 Říjen 2019
 - Zabbix 5.0 Květen 2020
 - Zabbix 5.2 Říjen 2020
 - Zabbix 5.4 ?

- Novinky v Zabbix 5.0 LTS – (5.0.8)
- <https://www.root.cz/clanky/novy-zabbix-5-0-lts-vyrazna-zmena-v-podobe-vertikalniho-menu/>
- Novinky v Zabbix 5.2 – (5.2.4)



The screenshot displays the Zabbix web interface for configuring a host. The sidebar on the left shows the navigation menu with options like Monitoring, Dashboard, Problems, Hosts, Overview, and Latest data. The main content area is titled 'Hosts' and contains a form for adding or editing a host. The form includes fields for Name, Host groups (with a search box and 'Select' button), IP, DNS, and Port. There are also checkboxes for Severity levels: Not classified, Information, Warning, Average, High, and Disaster. A 'Save as' button is located at the bottom right of the form. Below the form is a table of hosts with columns for Name, Interface, Availability, and Tags. The table shows one host named 'Zabbix server' with interface '127.0.0.1: 10050' and availability 'ZBX SNMP JMX PMI'. A red arrow points to the 'Moje' button in the top navigation bar. Another red arrow points to the 'Export' button in the top action bar, which has a dropdown menu open showing options for YAML, XML, and JSON. A third red arrow points to the 'Save as' button.

- Novinky v Zabbix 5.2
- User role – API user vice omezení
- Export – YAML, XML, JSON
- Podpora bezpečného ukládání hesel
- HashiCorp Vault
- <https://www.vaultproject.io/>



ZABBIX User roles

Name: **API Role**

User type: Super admin

Access to UI elements:

- Monitoring: Dashboard, Overview, Maps
- Inventory: Overview
- Reports: System information, Audit, Availability report, Action log, Triggers top 100, Notifications
- Configuration: Host groups, Maintenance, Discovery, Templates, Actions, Services, Hosts, Event correlation
- Administration: General, User groups, Media types, Proxies, User roles, Scripts, Authentication, Users, Queue

* At least one UI element must be checked.

Default access to new UI elements:

Access to modules: No enabled modules found.

Default access to new modules:


Access to API: Enabled


API methods: (Allow list) (Deny list)

Macro	Value	Description
{\$MACRO}	value	T description Remove

Add

T Text

 Secret text

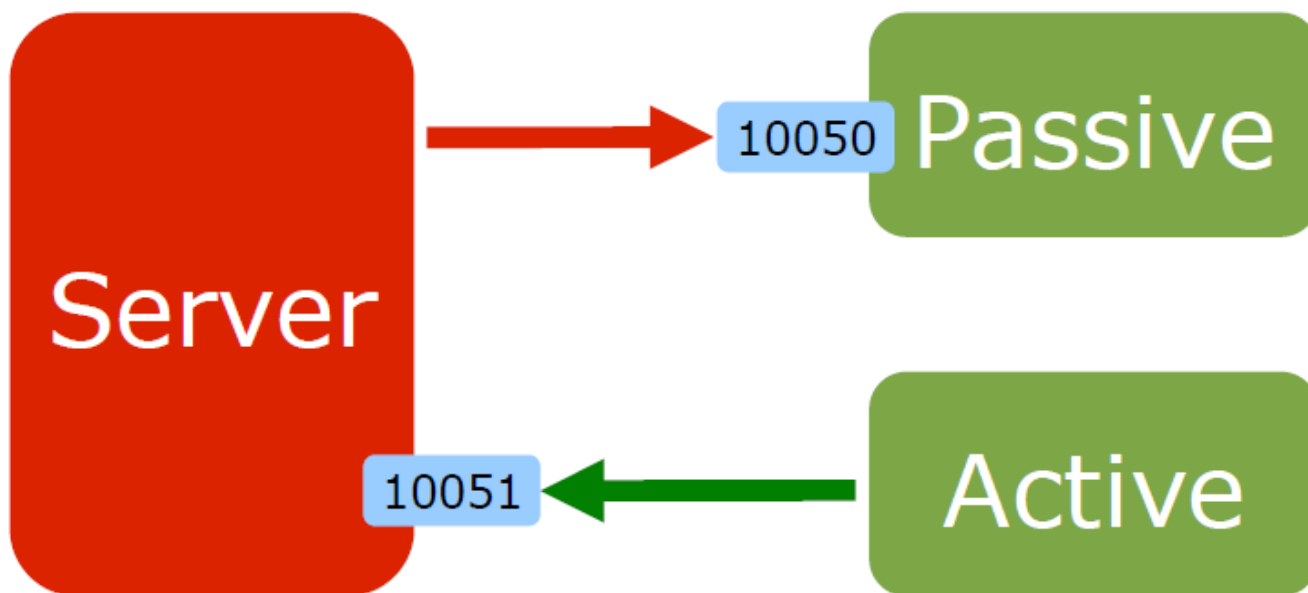
 Vault secret

- Co přináší Zabbix agent 2 - druhá generace v GO
- https://www.zabbix.com/documentation/5.0/manual/appendix/agent_comparison
 - Agent
 - Ceph
 - CPU
 - Docker
 - File
 - Kernel
 - Log
 - Memcached
 - MySQL
 - Netlf
 - Oracle
 - PostgreSQL
 - Proc
 - Redis
 - Swap
 - SystemRun
 - Systemd
 - TCP
 - UDP
 - Uname
 - Uptime
 - VFSDev
 - Web
 - ZabbixAsync
 - ZabbixStats
 - ZabbixSync

- ✓ Passive (polling)
- ✓ Active (trapping)

ZBX | SNMP | JMX | IPMI

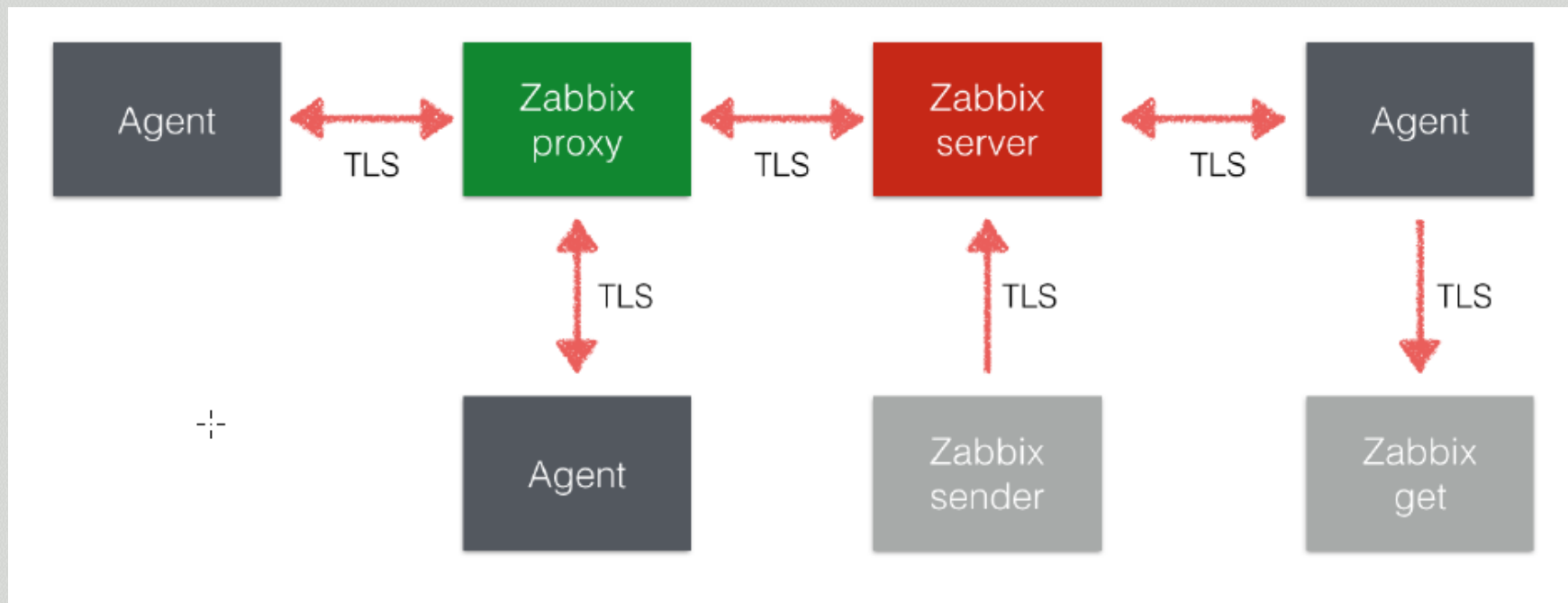
ZBX | SNMP | JMX | IPMI



- **LLD je způsob automatického vytváření itemů, triggerů, a grafů pro prvky objevené na zařízení**
 - Vytváření objektů je řízeno prototypy
 - Filtry na objevované prvky
 - Zabbix podporuje 8 typů LLD objevování
 - Dále je možné psát vlastní scripty

- **LLD je způsob automatického vytváření itemů, triggerů, a grafů pro prvky objevené na zařízení**
 - Objevování file systémů
 - Objevování síťových rozhraní
 - Objevování CPU a CPU core
 - Objevování SNMP OID
 - Objevování JMX objects
 - Objevování ODBC SQL dotazů
 - Objevování Windows services
 - Objevování host interfaces v Zabbix

- Použití Certifikátů
- Použití Pre-shared keys



- Zabbix disponuje možností API
 - Zabbix API umožňuje programově načíst a měnit konfiguraci
 - Poskytuje přístup k historickým datům
 - Umožňuje integraci Zabbix se softwarem třetích stran (např. mobilní aplikace)
 - Automatizujte rutinní úlohy
- Zabbix API je realizováno pomocí Zabbix Frontend
 - Používá protokol JSON-RPC 2.0
 - API se skládá ze souboru samostatných metod
 - Požadavky a odpovědi mezi klientem a rozhraním API jsou zakódovány ve formátu JSON
 - Plány na přepracování do Zabbix server

– Ansible

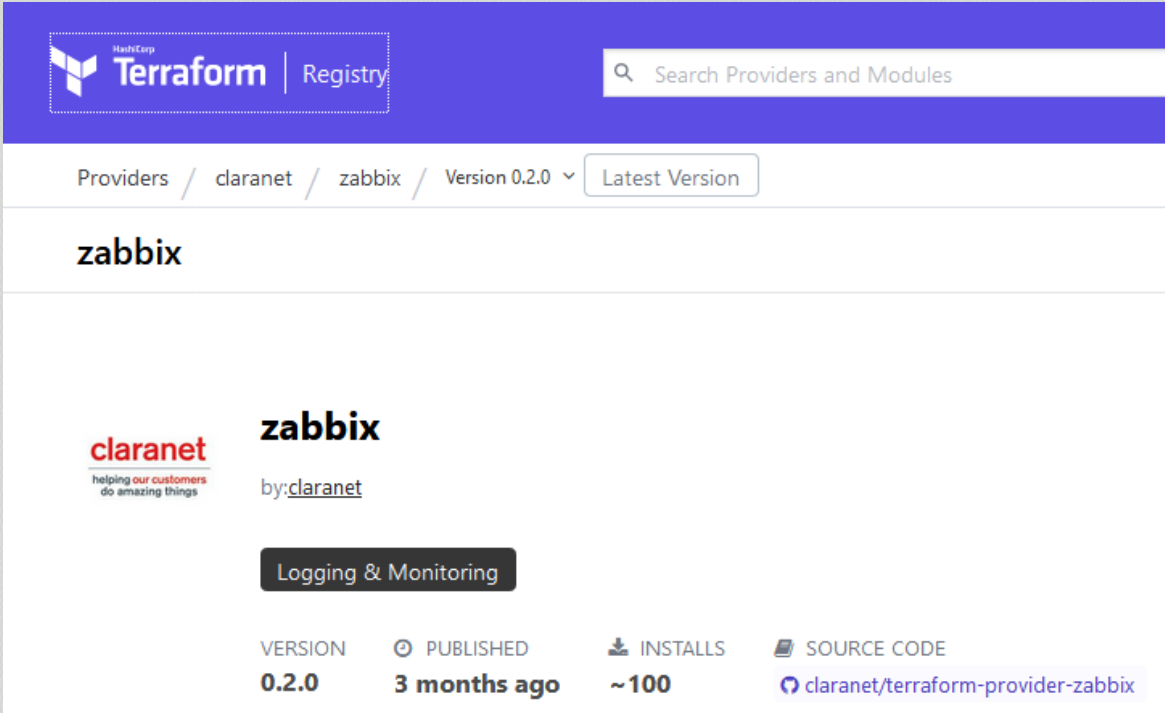
- Automatizaci konfigurací
- <https://docs.ansible.com/ansible/latest/collections/community/zabbix/>

Modules

- `zabbix_action` – Create/Delete/Update Zabbix actions
- `zabbix_discovery_rule` – Create/delete/update Zabbix discovery rules
- `zabbix_group` – Create/delete Zabbix host groups
- `zabbix_group_facts` – Gather information about Zabbix hostgroup
- `zabbix_group_info` – Gather information about Zabbix hostgroup
- `zabbix_host` – Create/update/delete Zabbix hosts
- `zabbix_host_events_info` – Get all triggers about a Zabbix host
- `zabbix_host_facts` – Gather information about Zabbix host
- `zabbix_host_info` – Gather information about Zabbix host
- `zabbix_hostmacro` – Create/update/delete Zabbix host macros
- `zabbix_maintenance` – Create Zabbix maintenance windows
- `zabbix_map` – Create/update/delete Zabbix maps
- `zabbix_mediatype` – Create/Update/Delete Zabbix media types
- `zabbix_proxy` – Create/delete/get/update Zabbix proxies
- `zabbix_screen` – Create/update/delete Zabbix screens
- `zabbix_service` – Create/update/delete Zabbix service
- `zabbix_template` – Create/update/delete/dump Zabbix template
- `zabbix_template_info` – Gather information about Zabbix template
- `zabbix_user` – Create/update/delete Zabbix users
- `zabbix_user_info` – Gather information about Zabbix user
- `zabbix_usergroup` – Create/delete/update Zabbix user groups
- `zabbix_valuemap` – Create/update/delete Zabbix value maps

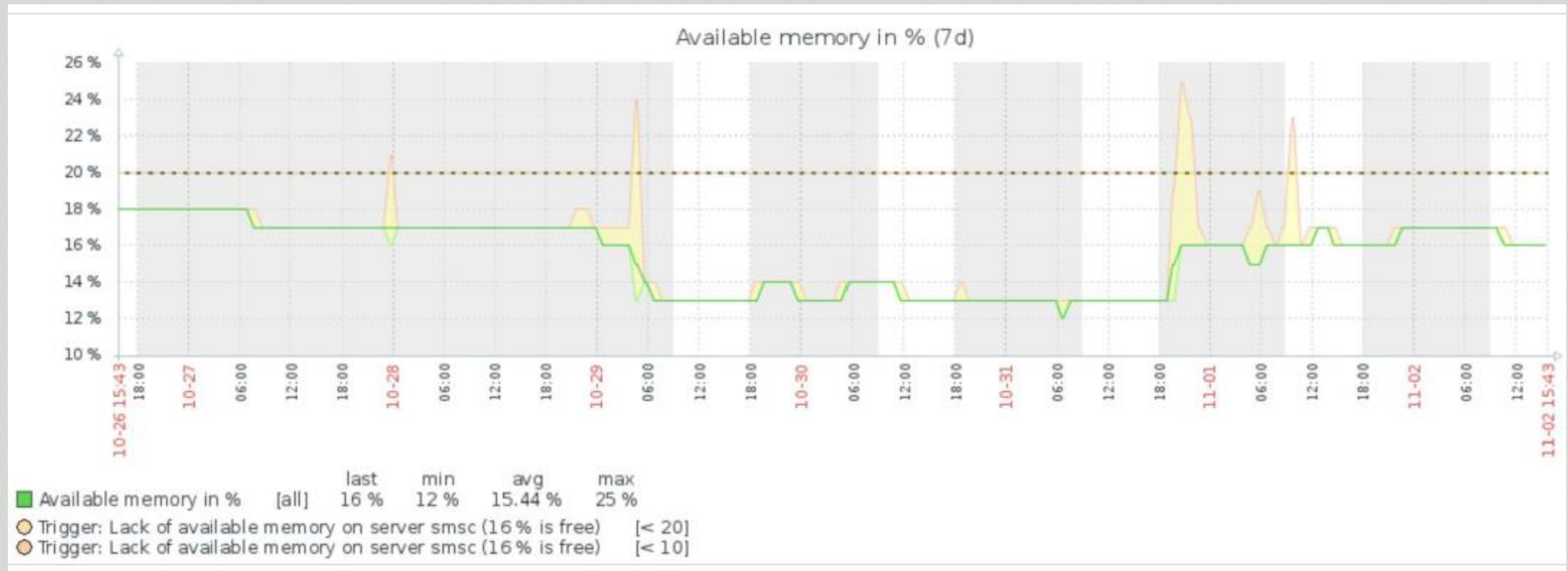
– Terraform

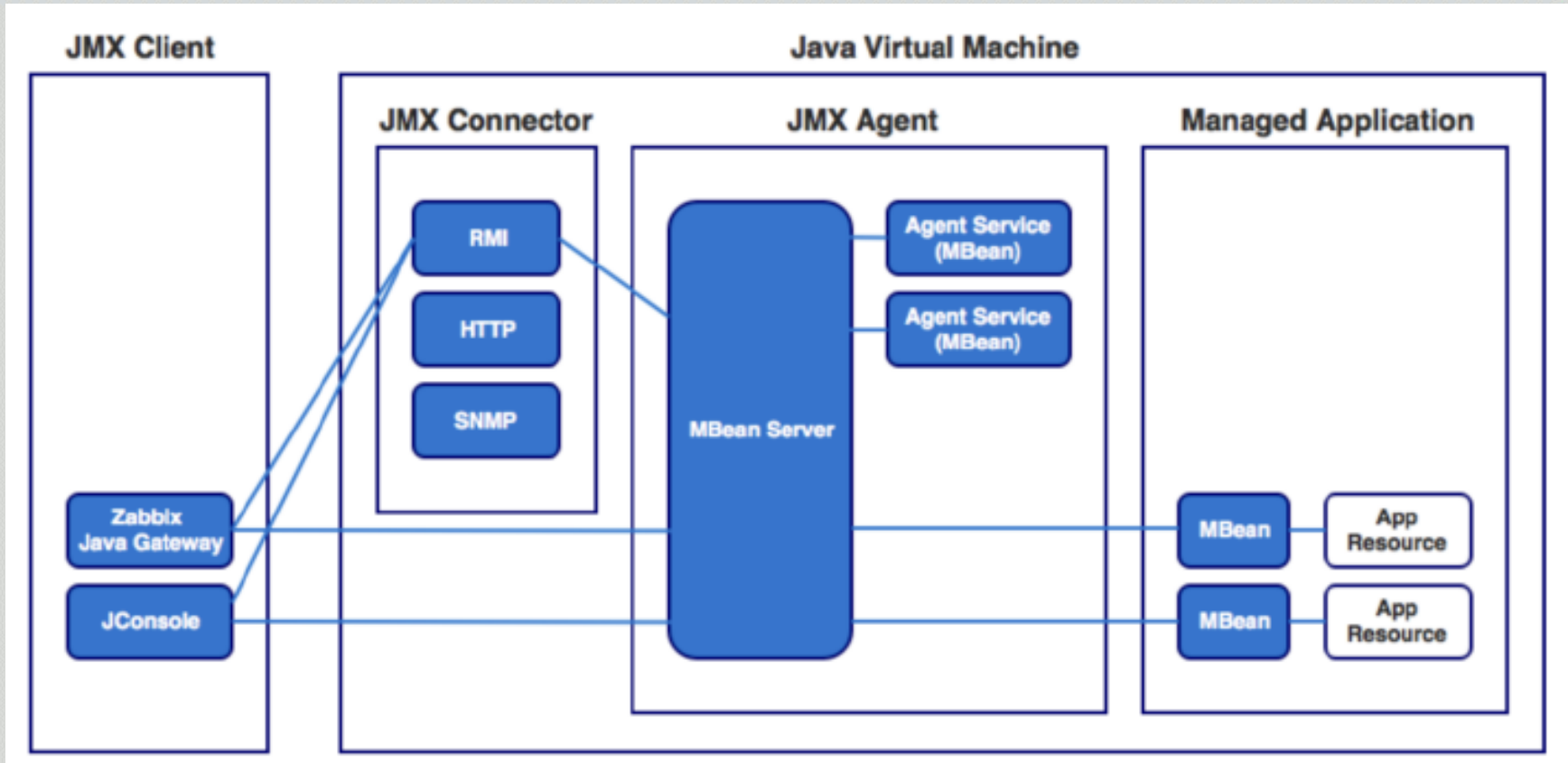
- Nástroj pro automatizaci instalaci serverů
- <https://registry.terraform.io/providers/claranet/zabbix/latest>

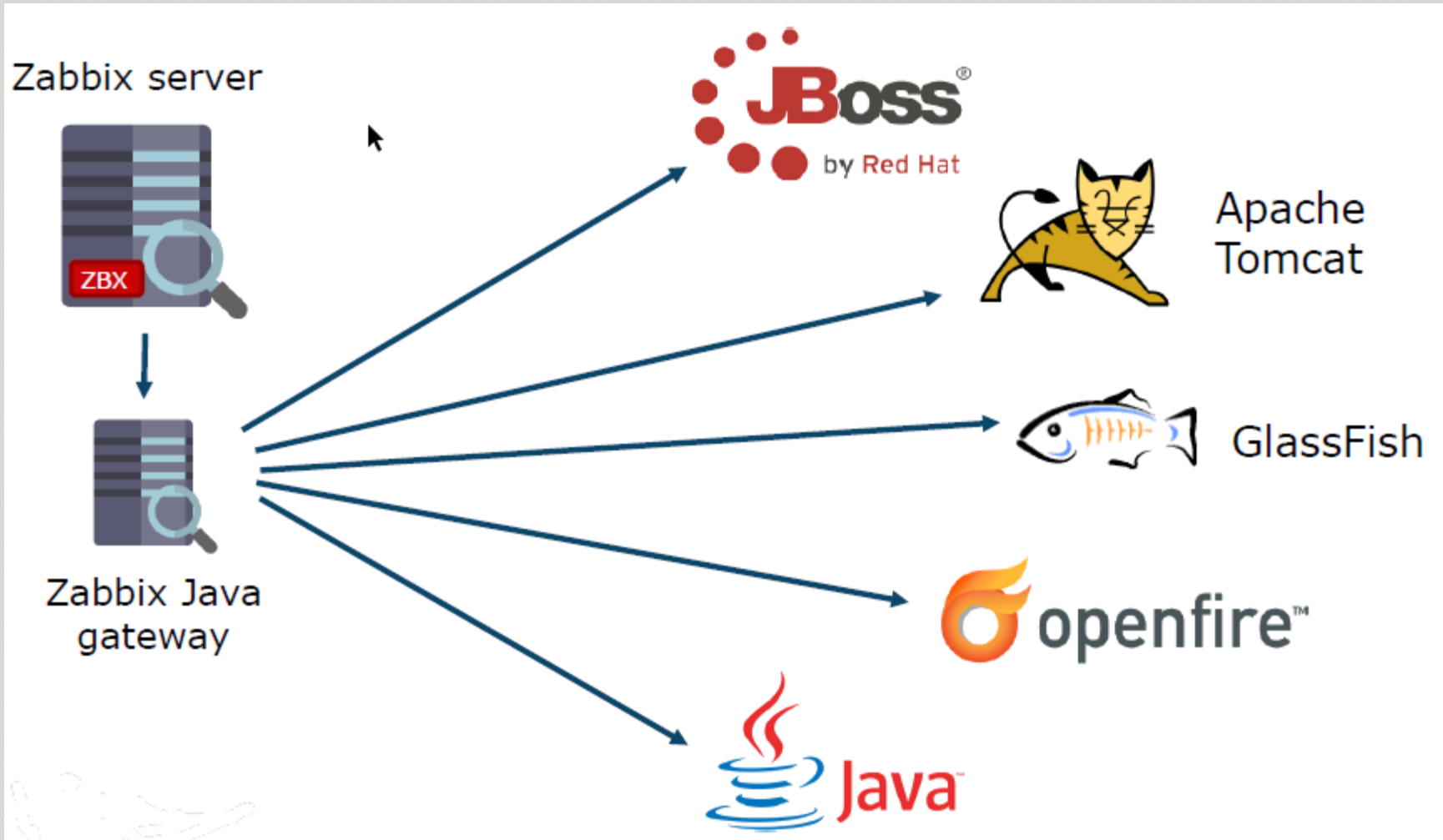


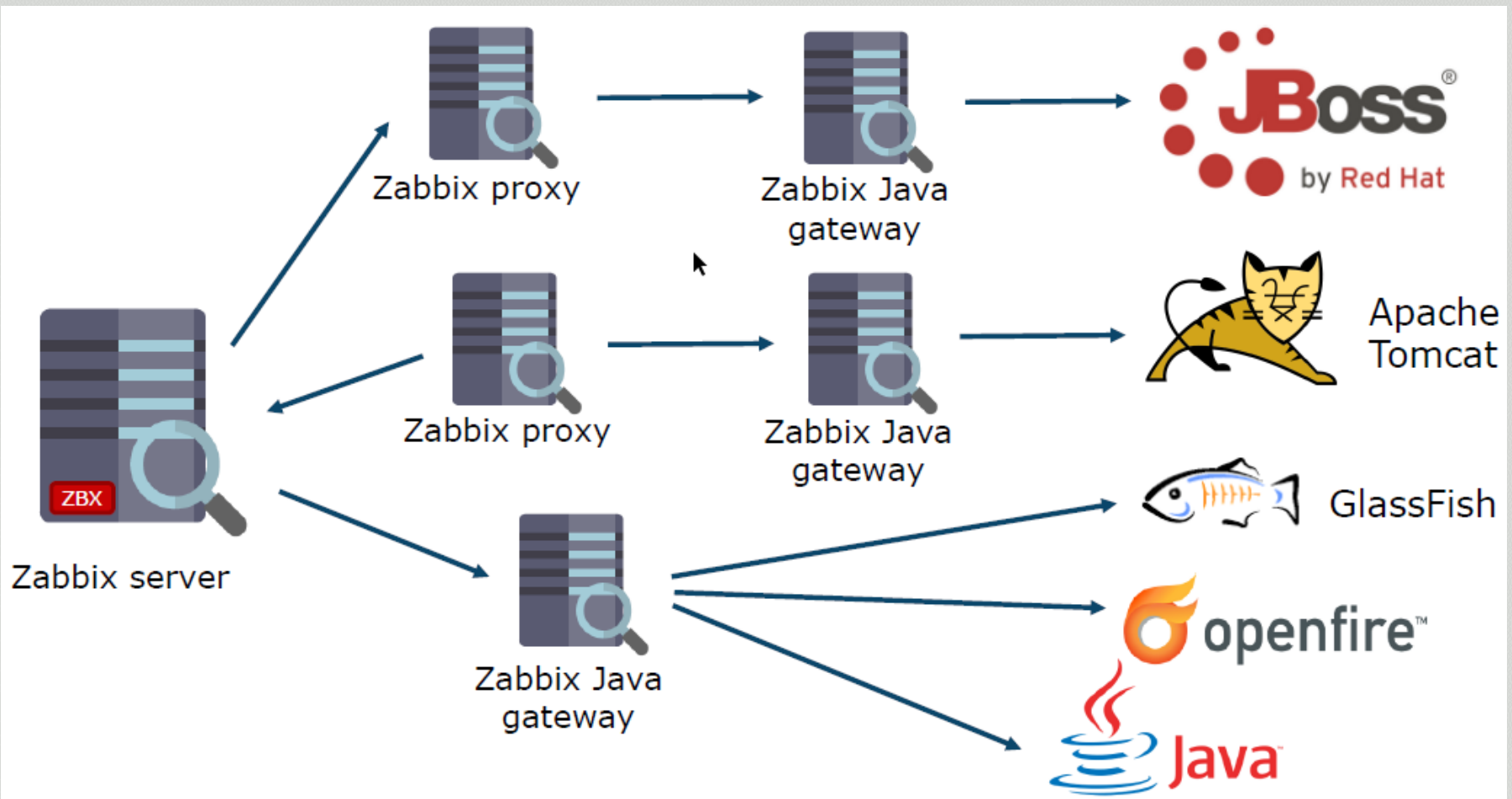
The screenshot shows the Terraform Registry page for the claranet/zabbix provider. The page is titled "zabbix" and is part of the "claranet" provider. The current version is 0.2.0, and it is the latest version. The page includes a search bar, a breadcrumb trail (Providers / claranet / zabbix / Version 0.2.0), and a "Latest Version" button. The main content area displays the claranet logo, the provider name "zabbix", and the author "by:claranet". Below this, there is a "Logging & Monitoring" button. At the bottom, there are statistics for the provider: VERSION 0.2.0, PUBLISHED 3 months ago, INSTALLS ~100, and SOURCE CODE [claranet/terraform-provider-zabbix](https://github.com/claranet/terraform-provider-zabbix).

- Jednoduchý Graf – Latest Data
- Graf
- Screen, Mapa, Dashboard

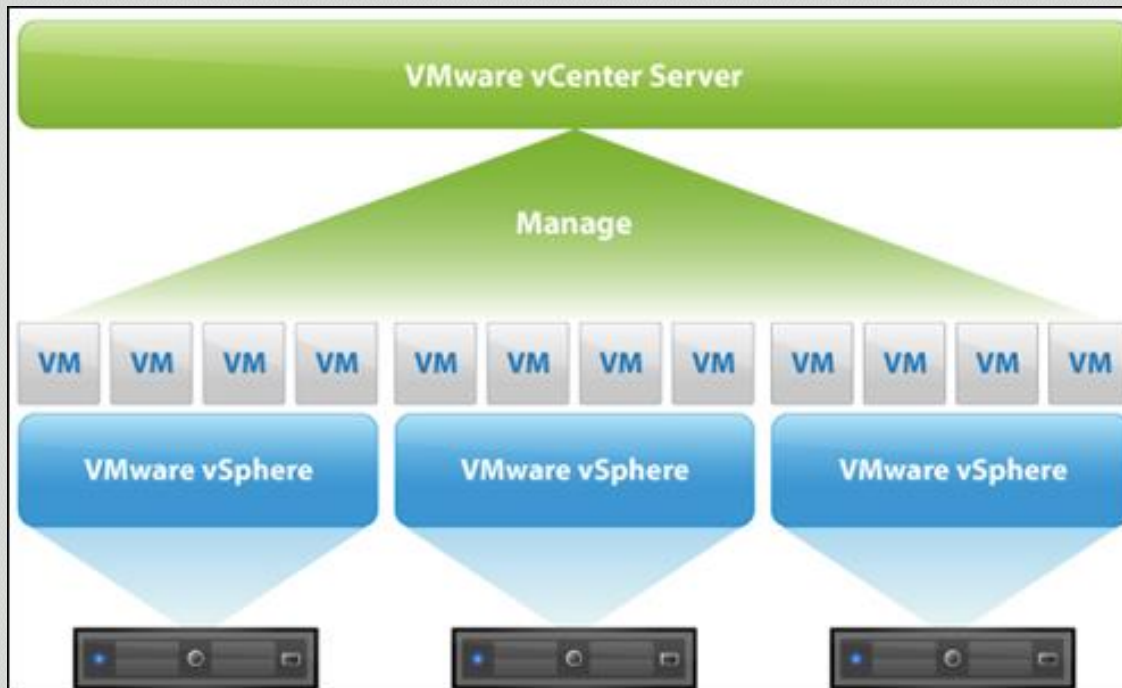








- Zabbix 5.0 LTS podporuje monitoring VMware
 - Využívá nativní VMware API
 - V minulosti se hojně používalo Perl SDK API pro scripty



– Mnoho podporovaných items (typu “Simple check”)

https://www.zabbix.com/documentation/5.0/manual/config/items/itemtypes/simple_checks/vmware_keys

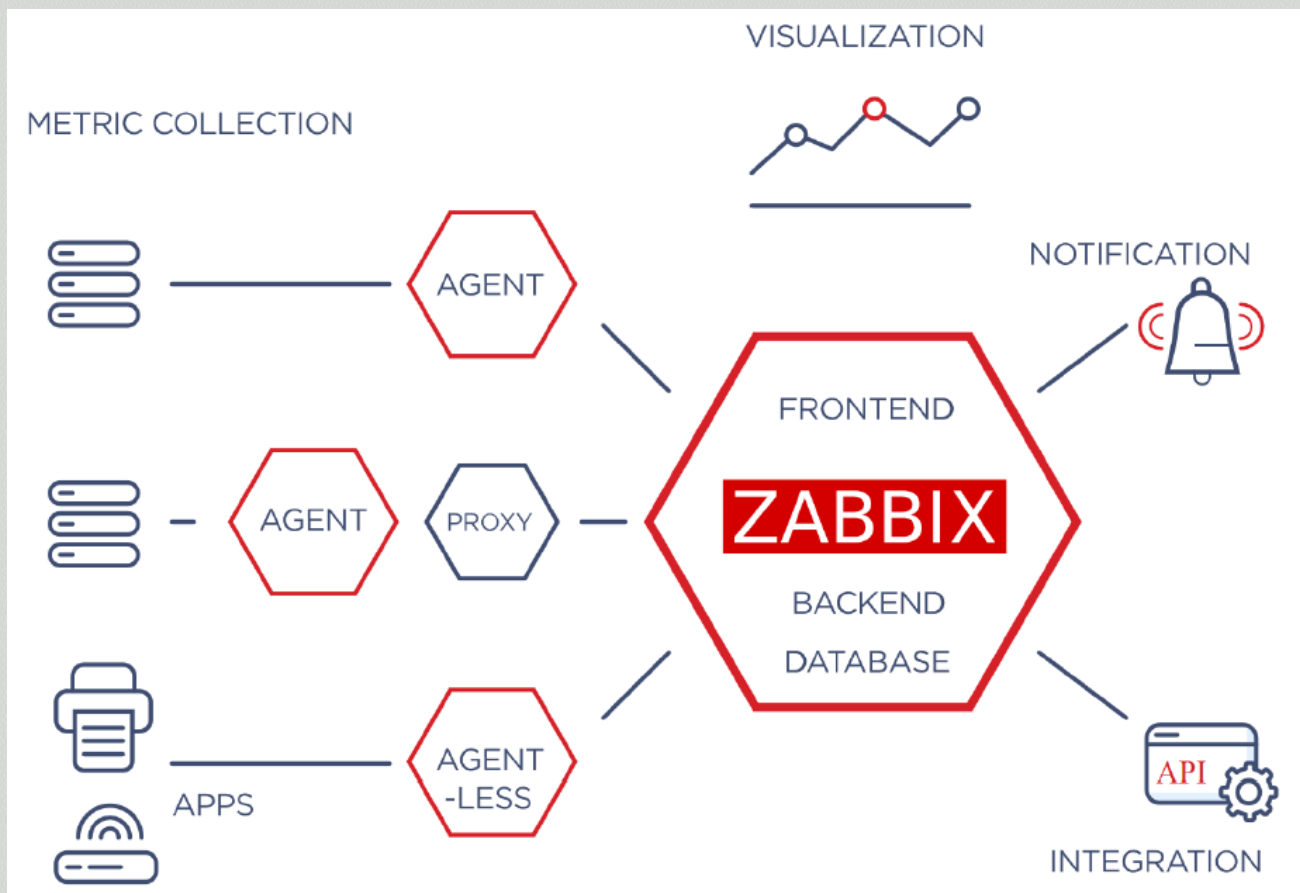
Description	Key	
	Return value	Parameters
vmware.cluster.discovery[<url>]		
Discovery of VMware clusters.	JSON object	url - VMware service URL
vmware.cluster.status[<url>, <name>]		
VMware cluster status.	Integer: 0 - gray; 1 - green; 2 - yellow; 3 - red	url - VMware service URL name - VMware cluster name
vmware.eventlog[<url>]		
VMware event log.	Log	url - VMware service URL
vmware.fullname[<url>]		
VMware service full name.	String	url - VMware service URL
vmware.hv.cluster.name[<url>, <uuid>]		
VMware hypervisor cluster name.	String	url - VMware service URL uuid - VMware hypervisor host name
vmware.hv.cpu.usage[<url>, <uuid>]		
VMware hypervisor processor usage (Hz).	Integer	url - VMware service URL uuid - VMware hypervisor host name
vmware.hv.datastore.discovery[<url>, <uuid>]		
Discovery of VMware hypervisor datastores.	JSON object	url - VMware service URL uuid - VMware hypervisor host name

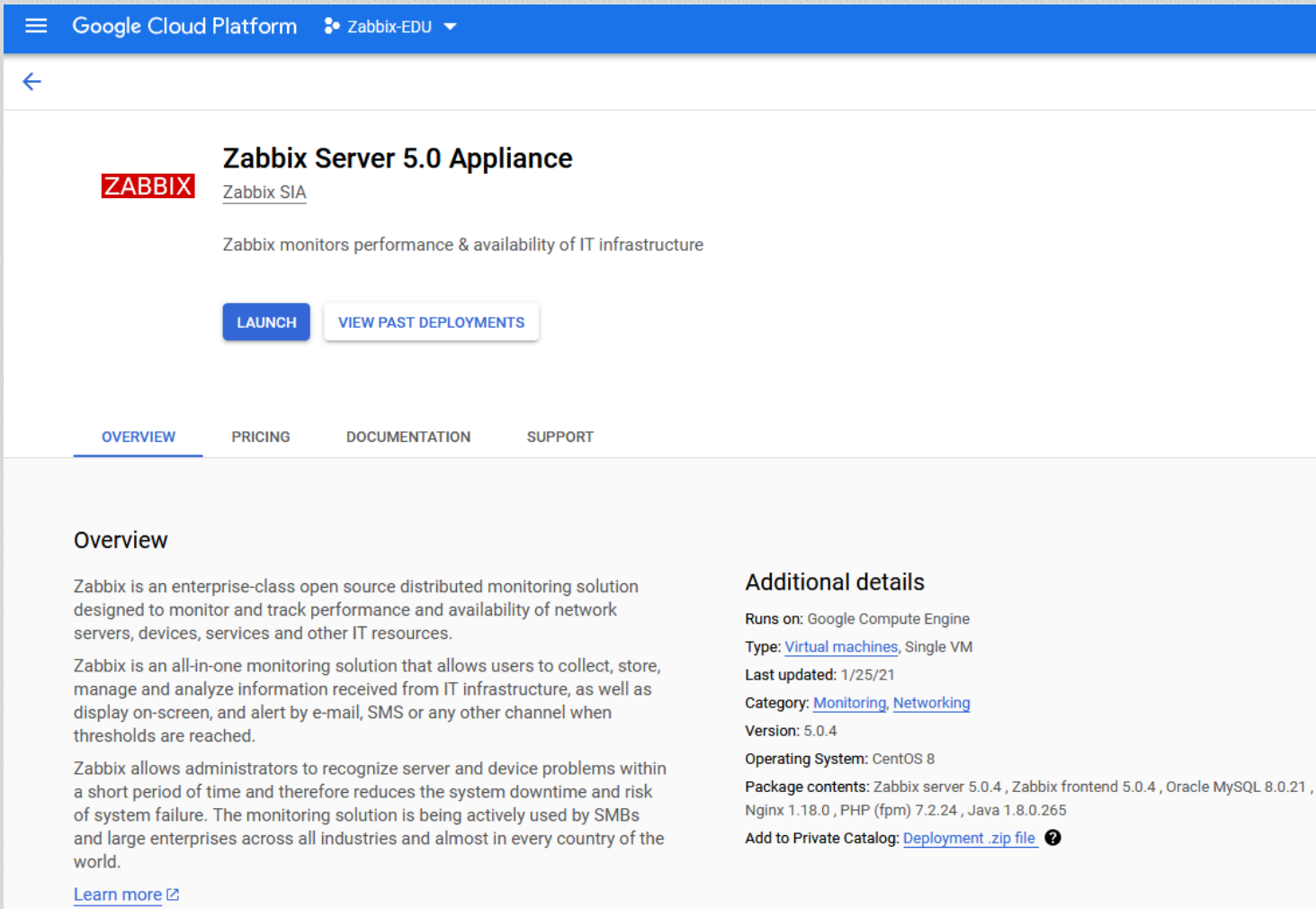
CPU (5 Items)
CPU cores
CPU frequency
CPU model
CPU threads
CPU usage
Datastore (2 Items)
Average read latency of the datastore datastore1
Average write latency of the datastore datastore1
General (6 Items)
Hardware (8 Items)
Memory (3 Items)
Ballooned memory
Total memory
Used memory
Network (2 Items)
Number of bytes received
Number of bytes transmitted

Kontroly dostupnosti Web



- **Distribuovaná architektura – Zabbix Proxy**





Google Cloud Platform Zabbix-EDU

←

Zabbix Server 5.0 Appliance

ZABBIX Zabbix SIA

Zabbix monitors performance & availability of IT infrastructure

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Overview

Zabbix is an enterprise-class open source distributed monitoring solution designed to monitor and track performance and availability of network servers, devices, services and other IT resources.

Zabbix is an all-in-one monitoring solution that allows users to collect, store, manage and analyze information received from IT infrastructure, as well as display on-screen, and alert by e-mail, SMS or any other channel when thresholds are reached.

Zabbix allows administrators to recognize server and device problems within a short period of time and therefore reduces the system downtime and risk of system failure. The monitoring solution is being actively used by SMBs and large enterprises across all industries and almost in every country of the world.

[Learn more](#)

Additional details

Runs on: Google Compute Engine

Type: [Virtual machines](#), Single VM

Last updated: 1/25/21

Category: [Monitoring](#), [Networking](#)

Version: 5.0.4

Operating System: CentOS 8

Package contents: Zabbix server 5.0.4, Zabbix frontend 5.0.4, Oracle MySQL 8.0.21, Nginx 1.18.0, PHP (fpm) 7.2.24, Java 1.8.0.265

Add to Private Catalog: [Deployment .zip file](#)



Dotazy?